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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,988	10/18/2004	William E. Melander	A4-1854	5987
27127	7590	07/26/2005	EXAMINER	
HARTMAN & HARTMAN, P.C. 552 EAST 700 NORTH VALPARAISO, IN 46383			COHEN, AMY R	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/711,988

Applicant(s)

MELANDER, WILLIAM E.

Examiner

Amy R. Cohen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the vertical direction of the axis of rotation of the wheels (when the micrometer unit is supported on the cylinder with a longitudinal axis in the horizontal direction) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6, 11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship between the wheels and the bearings. The specification and drawings do not clearly point out the structural relationship between the wheels and the bearings. Claims 6 and 11 also do not clearly point out the structural relationship between the wheels and the bearings. It is also unclear as to why the bearings have a larger diameter than the wheels.

Claims 7 and 8 are rejected based on their dependency on rejected claim 6.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4, 9, 15, 16, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Baresh et al. (U. S. Patent No. 4,240,206).

Claims 1, 2, 4: Baresh et al. teaches a freestanding micrometer for determining the diameter of a cylindrical body (90), the freestanding micrometer comprising: a housing (10);

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means for supporting (46a, 54b) the housing on a surface of the cylindrical body while the cylindrical body is oriented so that its longitudinal axis is approximately horizontal (Figs. 3-5), the support means enabling the freestanding micrometer to travel along a longitudinal length of the cylindrical body and comprising wheels (46a, 54b) having axes of rotation oriented in a substantially vertical direction when supporting the housing on the surface of the cylindrical body (Figs. 3-5, Col 2, lines 9-24); first measurement means (48b) movably supported (by spring 52b) by the housing so that the position of the first measurement means can be altered in a lateral direction approximately perpendicular to the longitudinal axis of the cylindrical body, the first measurement means being adapted for sensing a first surface point of the cylindrical body laterally spaced apart from the housing and disposed in a cross-sectional plane of the cylindrical body, the first surface point defining a terminal of a chord lying in the cross-section plane of the cylindrical body (Figs. 3-5, Col 2, lines 13-60); second measurement means (48a) mounted to the housing for contact with a second surface point of the cylindrical body disposed in the cross-sectional plane of the cylindrical body, the second surface point defining a location along the length of the chord (Figs. 3-5, Col 2, lines 13-60); and means for determining the diameter of the cylindrical body based on the length and height of the chord ascertained from the first and second outputs of the first and second measurement means, respectively (Col 2, line 53-Col 3, line 29).

Baresh et al. teaches the freestanding micrometer wherein the housing is positioned on the cylindrical body while the cylindrical body is oriented so that the longitudinal axis of the cylindrical body is approximately horizontal, the second measurement means is positioned approximately top-dead-center on the cylindrical body and the chord is horizontal so that the

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second surface point locates the midpoint of the length of the chord, the length of the chord being ascertained by the position in the lateral direction of the first measurement means relative to the second measurement means (Figs. 3-5, Col 2, lines 13-60).

Baresh et al. teaches the freestanding micrometer wherein the determining means comprises: a computer outside the housing for calculating the diameter of the cylindrical body (Fig. 1 shows that the signals are sent from the "probe unit" to the "readout unit" which are separate); and means for transmitting the first and second outputs to the computer (Fig. 1).

Claim 9: Baresh et al. teaches an electronic profile acquisition micrometer system (10) for sensing the diameter and variations in the diameter of a cylindrical body (Col 1, lines 29-44) while the cylindrical body (90) is oriented so that its longitudinal axis is approximately horizontal (Figs. 3-5), the micrometer system comprising: a portable freestanding micrometer unit (10); means for supporting (46a, 54b) the micrometer unit on a surface of the cylindrical body while the cylindrical body is oriented so that its longitudinal axis is approximately horizontal (Figs. 3-5, Col 2, lines 9-24), the supporting means comprising wheels (46a, 54b) disposed so as to contact the surface of the cylindrical body when the micrometer unit is supported on the surface by the supporting means (Figs. 3-5, Col 2, lines 9-24), each of the wheels having an axis of rotation oriented in a substantially vertical direction when the micrometer unit is supported by the supporting means on the surface of the cylindrical body (Figs. 3-5, Col 2, lines 9-24); and means for determining the diameter of the cylindrical body as the micrometer unit travels on the surface along a longitudinal length of the cylindrical body while the wheels contact the surface of the cylindrical body and the axes of rotation of the wheels are substantially vertical (Col 1, lines 29-44, Col 2, lines 24-42, Col 3, lines 3-47).

Claims 15, 16, 18: Baresh et al. teaches a method of determining the diameter of a cylindrical body, the method comprising the steps of: supporting a housing on a surface of the cylindrical body while the cylindrical body is oriented so that its longitudinal axis is approximately horizontal, the housing being supported with wheels that contact the surface of the cylindrical body and have axes of rotation oriented in a substantially vertical direction while supporting the housing on the surface of the cylindrical body (Col 3, lines 3-29); determining the diameter of the cylindrical body while causing the housing to travel on the surface along a longitudinal length of the cylindrical body while the wheels contact the surface of the cylindrical body and the axes of rotation of the wheels remain substantially vertical (Col 2, line 53-Col 3, line 29).

Baresh et al. teaches the method comprising the steps of: positioning a first measurement means (48a) relative to the housing in a lateral direction approximately perpendicular to the longitudinal axis of the cylindrical body (Col 2, lines 13-52); producing a first output signal with the first measurement means by sensing a first surface point of the cylindrical body laterally spaced apart from the housing and disposed in a cross-sectional plane of the cylindrical body, the first surface point defining a terminal of a chord lying in the cross-sectional plane of the cylindrical body (Col 2, lines 13-62); and producing a second output signal with a second measurement means (48b) by sensing a second surface point of the cylindrical body adjacent the housing and disposed in the cross-sectional plane of the cylindrical body, the second surface point defining a location along the length of the chord (Col 2, lines 13-62); wherein the diameter of the cylindrical body is determined based on the length and height of the chord ascertained from the first and second output signals (Col 2, line 53-Col 3, line 29).

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Baresh et al. teaches the method wherein the first and second output signals are transmitted from the housing to a computer outside the housing, and the computer calculates the diameter of the cylindrical body (Fig. 1 shows that the signals are sent from the "probe unit" to the "readout unit" which are separate).

6. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Hold (U. S. Patent No. 3,169,323).

Hold teaches a method of determining the diameter of a cylindrical body, the method comprising the steps of: supporting a housing on a surface of the cylindrical body (Col 1, lines 67-70); supporting a first measurement means with an arm mounted to the housing and projecting outwardly therefrom, the arm having graduations along a length thereof, the graduations defining a chord scale corresponding to multiple chord lengths lying in a cross-section plane of the cylindrical body, the first measurement means being movably mounted to the arm to enable selective positioning of the first measurement means along the length of the arm with the graduations (Col 2, lines 13-50); positioning the first measurement means at one of the graduations on the arm corresponding to one of the multiple chord lengths based on the size of the cylindrical body, the first measurement means locating a terminal of a chord corresponding to the one of the multiple chord lengths (Col 2, lines 13-50); locating a point along the length of the chord with a second measurement means (Col 2, lines 13-50); and determining the diameter of the cylindrical body based on the length and height of the chord (Col 2, line 57-Col 3, line 10). Examiner notes that the chord in the Hold reference is the diameter.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baresh et al. in view of Helmrichs (U. S. Patent No. 6,079,113).

Baresh et al. discloses the freestanding micrometer and electronic profile acquisition micrometer system as described above in paragraph 5 and wherein it is known that the diameter is twice the radius.

Baresh et al. does not specifically disclose the electronic profile acquisition micrometer wherein the determining means is programmed to calculate the diameter of the cylindrical body based on the formula $d = (c^2 + 4h^2)/4h$ where d is the diameter of the cylindrical body, c is the length of a horizontal chord measured by the determining means, and h is the height of the horizontal chord.

Helmrichs discloses an electronic profile acquisition micrometer wherein the determining means is programmed to calculate the diameter of the cylindrical body based on the formula $d = (c^2 + 4h^2)/4h$ where d is the diameter of the cylindrical body, c is the length of a horizontal chord measured by the determining means, and h is the height of the horizontal chord (Col 6, lines 7-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the micrometer of Baresh et al. to specify the formula for calculating the

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diameter, as taught by Helmrichs, so that the user would have an accurately programmed determining means which could give the diameter with an accuracy within a thousandths of an inch (Helmrichs, Col 6, lines 7-29).

9. Claims 12, 13, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baresh et al. in view of Betsill et al. (U. S. Patent No. 5,088,207).

Baresh et al. discloses the electronic profile acquisition micrometer system and method as described above in paragraph 5 and comprising means for determining a profile of the cylindrical body along the longitudinal length thereof based on changes in the diameter of the cylindrical body continuously determined along the longitudinal length of the cylindrical body (Col 2, line 53-Col 3, line 29).

Baresh et al. does not disclose the electronic profile acquisition micrometer and method comprising means for sensing a distance the micrometer unit travels along the longitudinal length of the cylindrical body.

Betsill et al. discloses an electronic profile acquisition micrometer and method comprising means for sensing a distance the micrometer unit travels along the longitudinal length of the cylindrical body (Col 2, lines 50-52, Col 3, lines 51-61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the micrometer of Baresh et al. to include a means for sensing distance, as taught by Betsill et al., so that a user would be able to both measure the diametrical profile of a cylindrical body and the length along which the micrometer traveled.

10. Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baresh et al. in view of Wachtler (U. S. Patent No. 5,052,121).

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Baresh et al. discloses the electronic profile acquisition micrometer system and method as described above in paragraph 5.

Baresh et al. does not disclose the micrometer and method comprising means for sensing a temperature of the cylindrical body adjacent at least one of the first and second surface points.

Wachtler discloses a micrometer and method comprising means for sensing a temperature of the cylindrical body adjacent at least one of the first and second surface points (Col 8, lines 49-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the micrometer and method of Baresh et al. to include a means for temperature sensing, as taught by Wachtler, in order to ensure that the measurements are accurate with respect to the temperature of the cylindrical body (Wachtler, Col 7, lines 41-58).

Double Patenting

11. Claims 1-4, 6-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,820,347. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the Patent are more broad than the claims of the current Application.

Response to Arguments

12. Applicant's arguments with respect to claims 1-4, 6-20 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy R. Cohen whose telephone number is (571) 272-2238. The examiner can normally be reached on 8 am - 5 pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ARC
July 20, 2005

Christopher Fulton
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A U 2859